THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 35

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte AKIRA YOSHINO

Appeal No. 1996-4067
Application No. 08/227,686[1]

ON BRIEF

Before JOHN D. SMITH, PAK and WALTZ, Administrative Patent Judges.

JOHN D. SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal pursuant to 35 U.S.C. § 134 from the final rejection of claims 7 and 8.

Claim 7 is representative and is reproduced below:

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[1] Application for patent filed April 14, 1994. According to the appellant, the application is a continuation of Application No. 07/852,217, filed May 28, 1992, now abandoned.

7. A method of manufacturing a motor rotary apparatus containing a rotary shaft having a journal portion, the method comprising the steps of masking portions of said apparatus other than the journal portion, holding said journal portion in a fluorine- or fluoride-containing gas atmosphere under heating to form a fluoride layer on the surface of the journal portion, and thereafter further holding the journal portion in a nitride atmosphere under heating to form a hard nitride layer on the surface of the journal portion, and assembling on said rotary shaft an armature; an armature coil operably mounted onto said armature; and a commutator operably mounted onto said armature coil.

The references of record relied upon by the examiner are:

Tahara et al. (Tahara)	5,013,371	May 7, 1991
Hollox	4,858,294	August 22, 1989

Patent Abstracts of Japan, Unexamined Applications, Section: E, Section. No. 885, Vol. 14, No. 67 p. 145 (the Japanese abstract), published July 2, 1990

Franz et al. (Franz[2]) German patent 222 335 published May 15, 1985

The appealed claims stand rejected under 35 U.S.C. § 103 as unpatentable over the Japanese abstract in view of Tahara, Franz, and Hollox.

We cannot sustain the stated rejection.

[2] Our review of this reference is based on the English translation of record.

The subject matter on appeal is directed to a method of manufacturing a motor rotary apparatus such as a DC or AC servo motor used in industrial robots which apparatus contains a rotary shaft having a journal portion rotatably supported by a bearing member. Appellant explains in his specification in the "Background Of The Invention" section (pages 1 and 2) that the journal portion of the rotary shaft is "required to have high durability" and that high durability steels "are selected" for use as the rotary shaft of such an apparatus with the attendant disadvantages of "increases in cost of material and weight."
See the specification at page 2, lines 11-20. In this regard, the claimed method on appeal is said to form a low cost motor rotary shaft that is of reduced weight compared to other shafts because the claimed method forms a hard nitride layer on the surface of the journal portion of the shaft without forming a hard nitride layer "on the remainder of the rotary shaft." See the brief at page 4. To achieve this purpose, appellant's claimed method involves a step of masking portions of the apparatus other than the journal portion of the shaft. Then, the unmasked journal portion of the shaft is held in a

fluorine- or fluoride-containing gas atmosphere under heating to form a fluoride layer on the surface of the journal portion. Thereafter, the journal portion with the fluoride layer is held in a nitride atmosphere under heating to form a hard nitride layer on the surface of the journal portion of the rotary shaft. At this point, the final assembly steps are undertaken to provide the apparatus with an armature, an armature coil, and a commutator.

In his supplemental answer entered July 7, 1999, the examiner contends that the Japanese abstract "shows that the claimed motor structure and components are known in the art" although the examiner acknowledges that this "reference does not disclose that the journal portion of the shaft has a hard nitride layer formed on a surface." See the supplemental answer at pages 4 and 5 (emphasis added). We point out, as emphasized above, that the appealed claims are directed to a of method of manufacturing a motor rotary apparatus involving clearly defined manipulative steps of "masking", "holding", "further holding", and "assembling." Thus, the stated rejection does not directly address the claimed subject matter.

Even if the Japanese abstract described similar corresponding methodology as required by the claims on appeal, this reference contains no teaching or suggestion of the formation of a hard nitride layer on the shaft of the described DC servo motor, much less that a hard nitride layer should be formed only on the journal portion of the shaft by the specific steps required by the appealed claims. That shafts for other devices have been selectively nitrided and that the specific nitriding process utilized by appellant is described in the art in the Tahara patent is no basis for combining the teachings of the relied upon references to arrive at the claimed subject matter. The examiner's statement in the supplemental answer at page 6 that "[N]itriding just a wear part of a shaft such as a journal portion is within an ambit" of a person of ordinary skill in the art is simply not an adequate reason to combine the reference teachings in the manner implicitly proposed. Thus, the examiner's stated rejection cannot be sustained.

OTHER ISSUES

Before taking any further action in this application, the examiner should carefully review the "Background of the Invention" section of appellant's specification at pages 1 and 2 to determine whether this background material constitutes admitted prior art to appellant. Specifically, with appellant's cooperation, the examiner should determine whether Figure 4 of the application represents admitted prior art with respect to an apparatus having a high durability steel shaft, and whether prior art workers recognized at the time of appellant's invention that the journal portion of the shaft in association with the bearing metals was required to "have high durability." See the specification at page 2, lines 11-15, and our discussion of this disclosure at page 2 of this decision. Based on these determinations, the question of obviousness should be reevaluated.

In summary, the decision of the examiner is reversed. Other issues must be considered by the examiner before taking any additional action in this application.

REVERSED

JOHN D. SMITH Administrative Patent Judge	)
CHUNG K. PAK Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
THOMAS A. WALTZ Administrative Patent Judge	)

jrg

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Armstrong, Westerman, Hattori,
McLeland & Naughton
Suite 1000
1725 K St., N.W.
Washington, DC 20006